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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/379,710	08/24/1999	STEPHEN G. PERLMAN	004259.P003	1621

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EXAMINER

HSIA, SHERRIE Y

ART UNIT	PAPER NUMBER
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2614

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DATE MAILED: 06/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/379,710

Applicant(s)

PERLMAN, STEPHEN G.

Examiner

Sherrie Hsia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-52 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 August 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2-4.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

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DETAILED ACTION

Claim Objections

1. Claims 20-38 and 52 are objected to because of the following informalities:

In claims 20-35 and 37, line 1, "apparatus" should be --method--.

In claim 30, it seems that the dependency is incorrect. "26" should be --29-- in order to provide proper antecedent basis.

In claims 31 and 32, line 1, "26" should be --30--.

In claim 33, line 1, "22" should be --29--.

In claim 35, line 1, "26" should be --33--.

In claim 36, line 3, "data" should be --signal--.

In claim 37, it seems that the dependency is incorrect. "10" should be --36-- in order to provide proper antecedent basis.

In claim 38, line 4, after "motion", --compensation-- should be inserted.

In claim 52, line 2, before "said", "the" should be deleted.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 38-49 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 38, line 6, "may be" is indefinite since the resulting claims do not clearly set forth the metes and bounds of the patent protection desired. In the instant case, limitation carried out by the term "may be" will not be considered as a positive claimed limitation.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 17-19, 38-45 and 50-52 are rejected under 35 U.S.C. 102(b) as being anticipated by Ng (5689305).

As to claim 1, Ng discloses all the claimed subject matter, the claimed decode unit which receives an first encoded interlaced video signal, including interframe motion compensation data and responsively transmits a decoded interlaced video signal and associated interframe motion compensation data is met by the decoder system 13 (Fig. 1, column 2 lines 55-67, column 4 lines 12-40) and the claimed de-interlace unit which converts the first interlaced video signal to a first progressive video signal is met by the de-interlacer 16 (Fig. 1, column 4 lines 36-45, column 6 lines 19-35). Regarding the additionally claimed feature wherein the de-interlace unit selects a region of the first interlaced video signal for a different type of conversion, such that the selection is based on the change in position of the region between successive video frames, Ng teaches that the motion compensated de-interlacer 16 manipulates the picture data corresponding to the interlace fields from the memory according the motion vectors (see Abstract). Ng

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furthermore discloses that the motion information is used to generate a spatial flag 58, which is then used determine a particular conversion mode with respect to each block of data (see column 6 lines 35-67, column 7 lines 21-57, column 12 lines 21-65).

As to claims 2 and 3, Ng is directed to MPEG-1 and MPEG-2 video signals (see column 1 lines 29-48, column 7 lines 65-67).

As to claim 17, the claimed method steps correspond with subject matter mentioned above in the analysis of claim 1, and are likewise treated.

As to claims 18 and 19, Ng is directed to MPEG-1 and MPEG-2 video signals (see column 1 lines 29-48, column 7 lines 65-67).

As to claim 38, Ng teaches receiving an interlaced video signal and converting to a progressive video display format. Ng teaches that the conversion system determines, based on motion information, whether to utilize only a spatial interpolation algorithm or a combination of spatial interpolation and temporal interpolation, for a particular block of data (see column 7 lines 45-58, column 8 lines 49-65).

As to claims 39 and 40, Ng is directed to MPEG-1 and MPEG-2 video signals (see column 1 lines 29-48, column 7 lines 65-67).

As to claims 41 and 42, Ng utilizes interframe motion data, which identifies which regions of the video data are in motion.

As to claim 43, in Ng the regions, which are not in motion, are interpolated using only the spatial technique, whereas the regions in motion, utilizes a combination of spatial and temporal interpolation (see column 8 lines 49-65).

As to claim 44 and 45, Ng is directed to converting standard NTSC video to a de-interlaced (i.e., progressive) video format.

As to claim 50-52, see Ng column 8, lines 25-40.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-16 and 22-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ng (5689305) in view of Cookson (5400077).

As to claims 4 and 22, even though Ng is directed to the conversion of interlaced video to progressive video, it does not discuss the well-known technique of scaling the video to a different resolution. Nevertheless, Cookson discloses numerous options for scaling video signals at a receiver (see abstract, Fig. 9, column 1 lines 32-50, column 5 lines 35-52). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ng with the well known technique of scaling a video signal, at least for the desirable benefit of converting different incoming video resolutions to a resolution appropriate for the target display device, as taught by Cookson, column 1 lines 41-65.

As to claims 5, 6, 23, 24 and 27, the interlaced video in Ng may be standard NTSC TV, (see column 1 lines 15-25). Cookson discloses converting from NTSC to HDTV (see column 6 lines 8-20),

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As to claims 7, 25 and 28, Cookson also is directed to the conversion of PAL to HDTV (see column 14 lines 4-20).

As to claims 8, 9, 11-16, 26 and 30-35, Ng is directed to converting interlace to progressive. Furthermore, Cookson discusses various conversion ratios, and Cookson teaches that it would have been obvious to accommodate any number of the conversion ratios (see column 14 lines 5-20, column 29 lines 41-55).

As to claims 10 and 29, progressive to interlace procedures were well known in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify the combination of Ng and Cookson to provide a progressive to interlace, at least for the desirable advantage of output to a standard video display device.

5. Claims 20, 21, 36, 37 and 46-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ng.

As to claims 20, 21, 36 and 37, examiner notes that at the time the invention was made, various interpolating schemes were well known in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Ng with the known technique of choosing only odd or even rows of video data fields, at least for the known desirable advantage of saving required processing resources. Even though such an interpolating scheme might not provide as exact of a picture as one which interpolates both even and odd rows, such a result may represent an acceptable trade-off, since the difference is not always visually perceptible to the viewer, especially under certain conditions.

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As to claims 46 and 47, since PAL and HDTV video formats were well known and old in the art, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Ng with the known capabilities of converting PAL and/or NTSC video to a standard 1080 HDTV video format, at least for the desirable benefit of utilizing a more flexible range of display devices.

As to claims 48 and 49, both 24 frames/second and 60 frames/second video were well known in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Ng with the well known capabilities of conversion from/to 24 frames /second and 60 frames/second video, at least for the desirable benefit of output to a wider variety of display devices.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Simsic (6269484) discloses a method and apparatus for de-interlacing interlaced content using motion vectors in compressed video streams having MPEG-2 decoder and de-interlacing video rendering unit using decoding motion vector bitmap.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sherrie Hsia whose telephone number is (703) 305-4738.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (703) 305-4795.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any response to this action should be mailed to:


Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or faxed to:

(703) 872-9306 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 308-HELP.


Sherrie Hsia
Primary Examiner
Art Unit 2614

SH
May 28, 2004